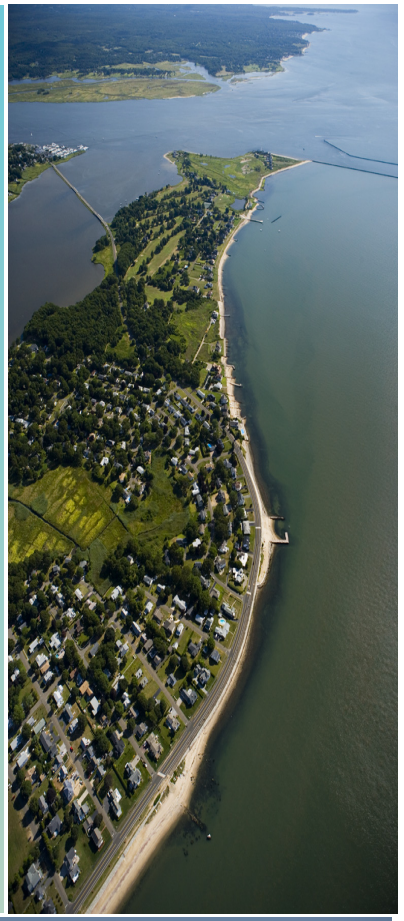
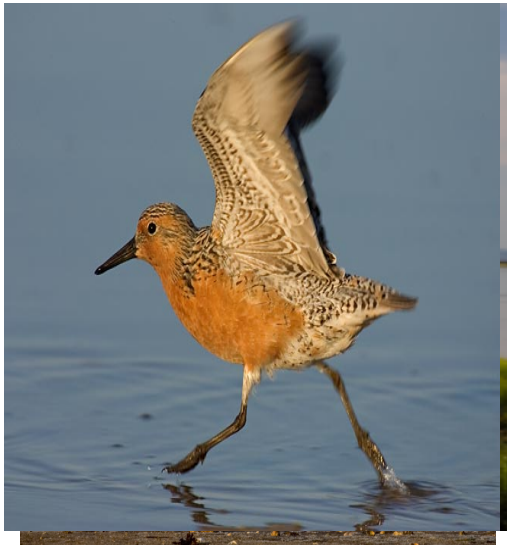
Making Decisions Our Resources Can Live With

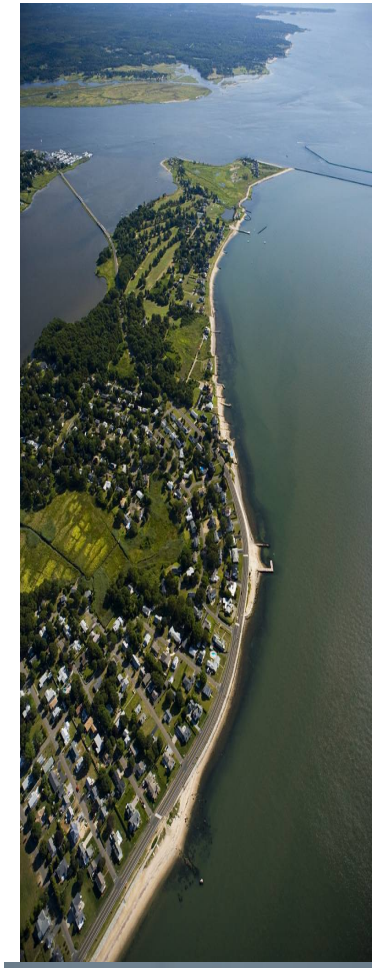
CHCCC: Strategies and Tools for the Mid-Atlantic

June 22nd, 2010

Adam Whelchel, Ph.D.







Architecture:

The Nature Conservancy
Protecting nature. Preserving life.™

- ✓ **Decision Making**
- ✓ **Climate Framework**
- ✓ **Steps & Strategies**
- ✓ **Examples**

Decision Making?!?

Living with Uncertainty and Complexity

How different will our decisions be when we incorporate climate?

Conservation/Planning Horizons

3-5 yrs. or 30 yrs.

Priorities and Urgency

What is…? When will…?

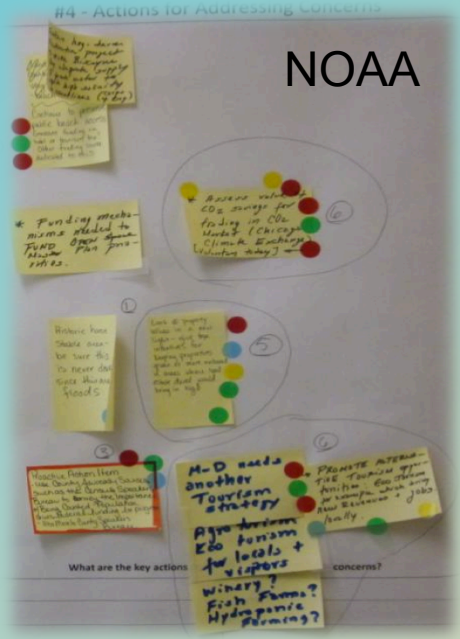
Reference Condition

Historic vs. (?)

In Support of Decisions…

Tools and Data Provide Support

- Simulation Models
- Expert Panels
- Optimization Techniques



Decision Support System

- Credible Information
- Vulnerability Assessment
- Visualization & Scenarios

What to do?

With whom?

Where?

When?

43,252,003,274,489,856,000 permutations (43 quintillion)

Optimal Solution
in
100 moves

Larry Nichols, 1972 “Puzzle with Pieces Rotatable in Groups”

Informed and Applied Resource Management
Climate Context

Step 1: Vulnerability Assessments

Impacts, Opportunities, Gaps

Future Climate Scenarios

Step 2: Management Objectives

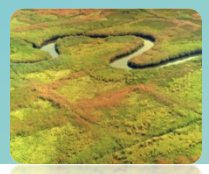
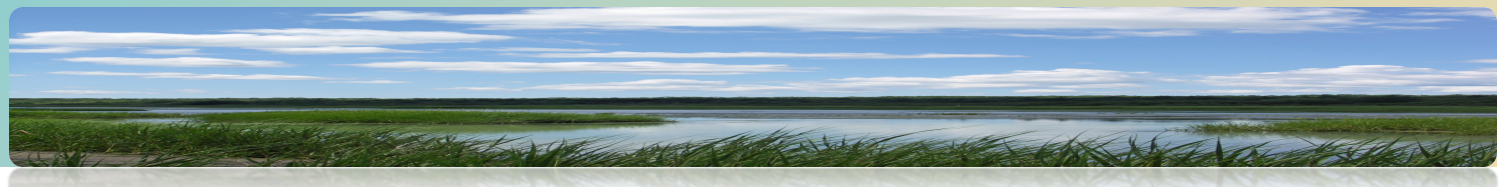
Reassess, Define, Develop

Step 3: Implementation and Monitoring

Adaptation Strategies and Effectiveness

Step 4: Reevaluate

Phased Iterative and Long-term Process

Adaptation Planning and Implementation
Climate Context

A) Today and Tomorrow Strategies

Beneficial Regardless of our Climate Future

Increase Management Flexibility

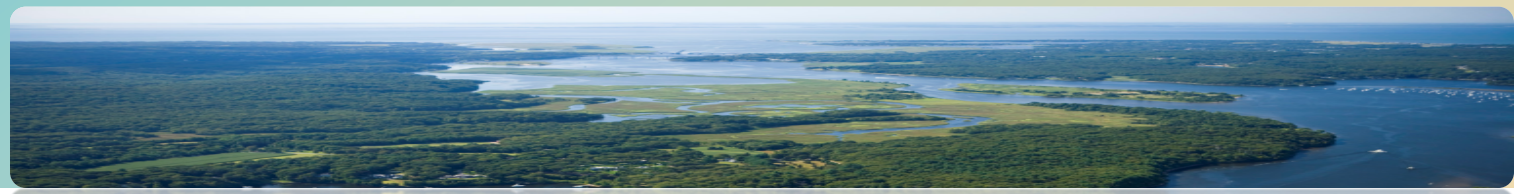
B) Space and Time

Range-wide Regional Management – 30 yrs. Horizons

C) Partnerships and Coordination

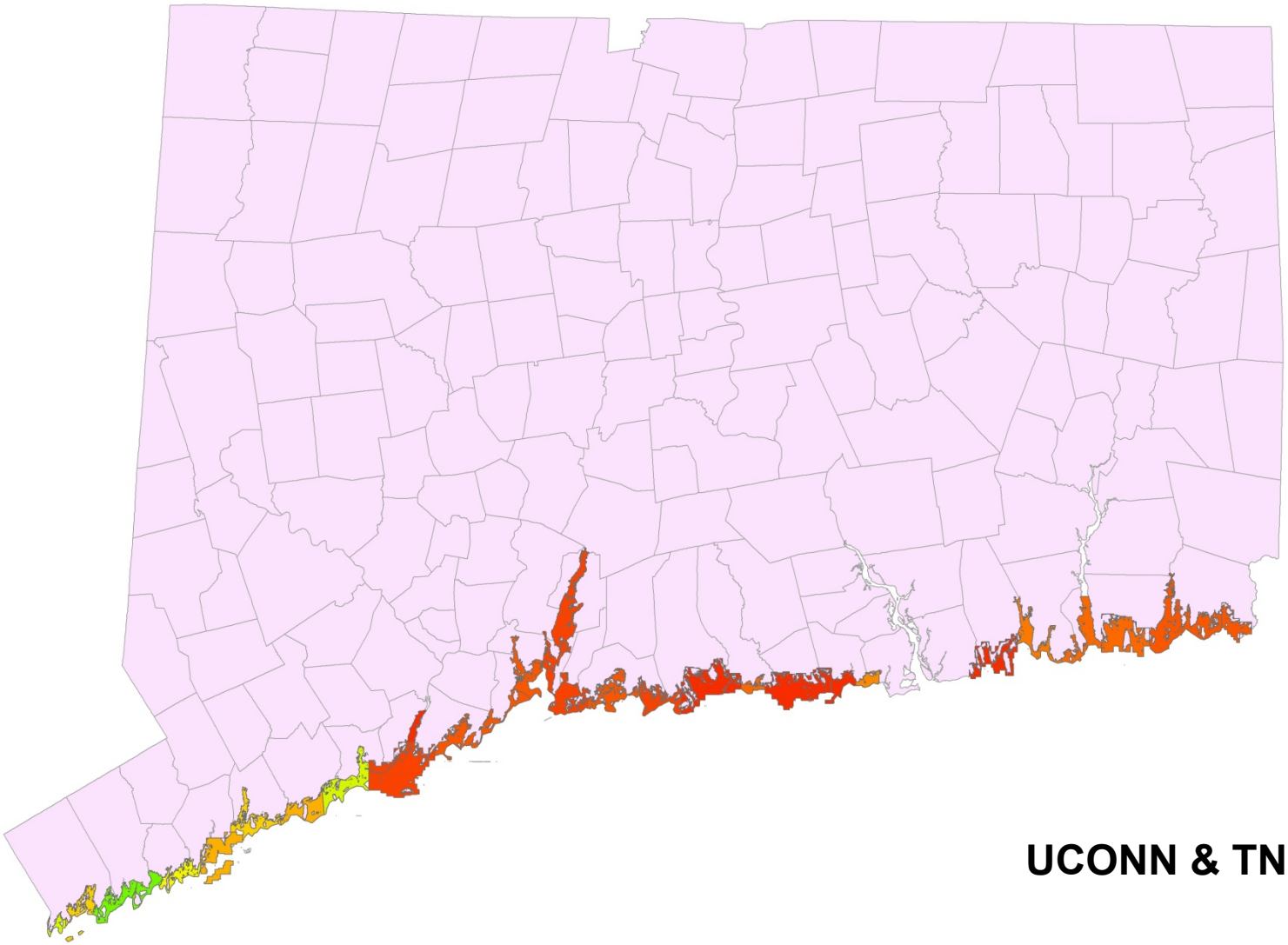
Private Sector, Academia, NGOs, Local, State, Federal





Step 1: Vulnerability Assessment

Change in High Marsh Area
Rahmstorf 1.25m Built Shoreline



UCONN & TNC 2010

Step 2: Management Objectives

Change in High Marsh Area
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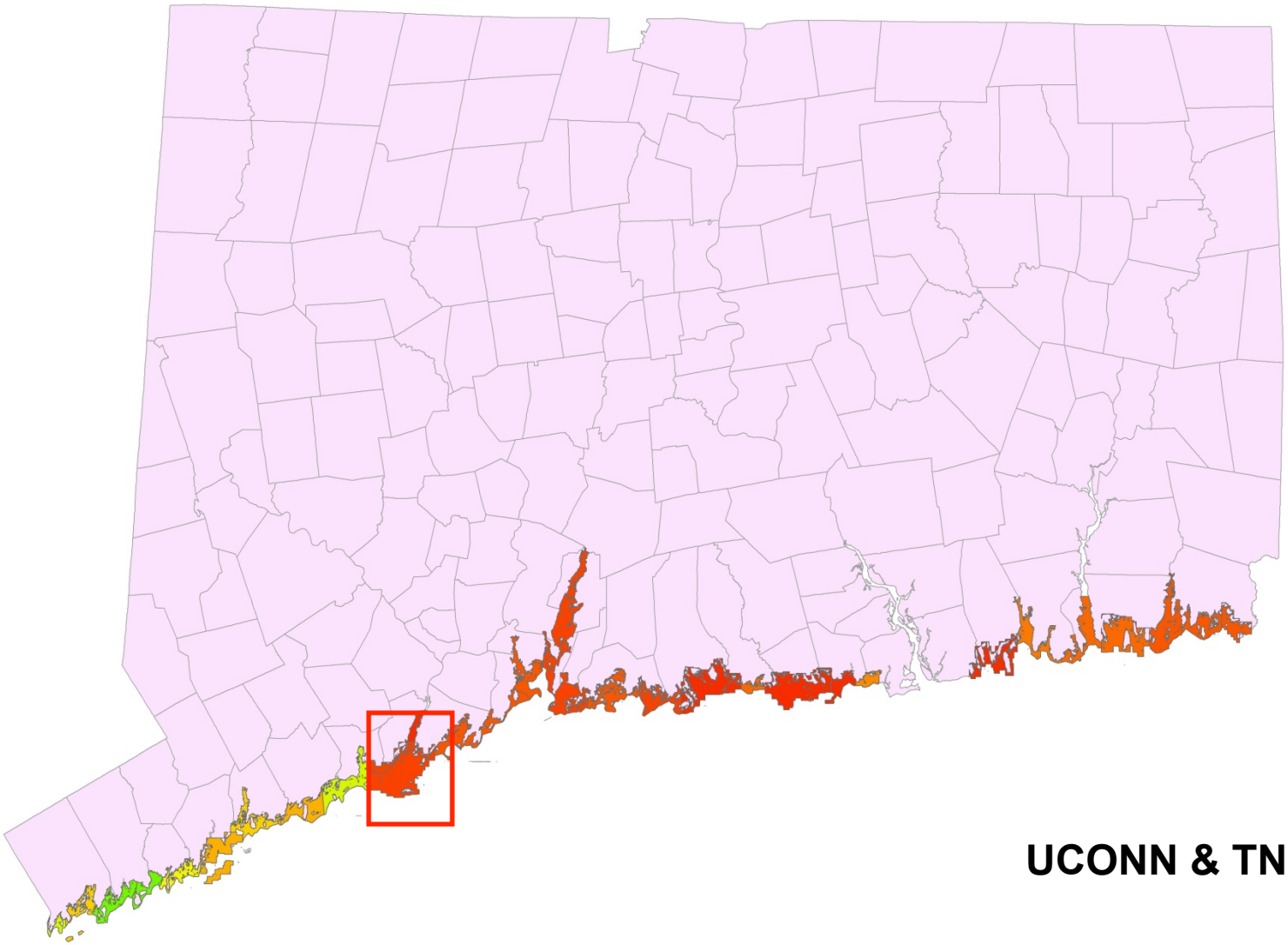

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Site #21 Milford
Rahm 1.25m BS

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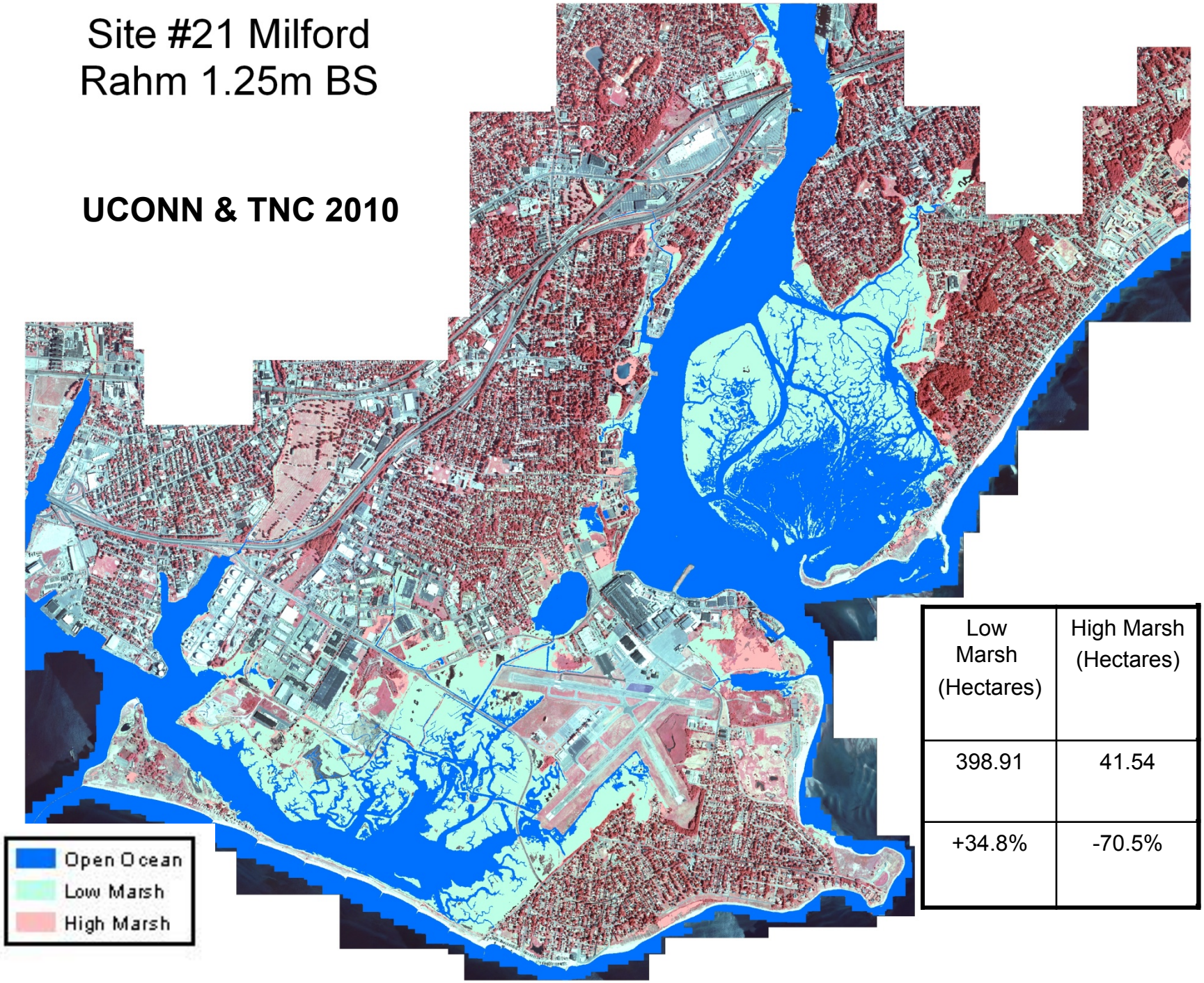

Low Marsh (Hectares)	High Marsh (Hectares)
398.91	41.54
+34.8%	-70.5%

Step 2: Management Objectives

Change in High Marsh Area
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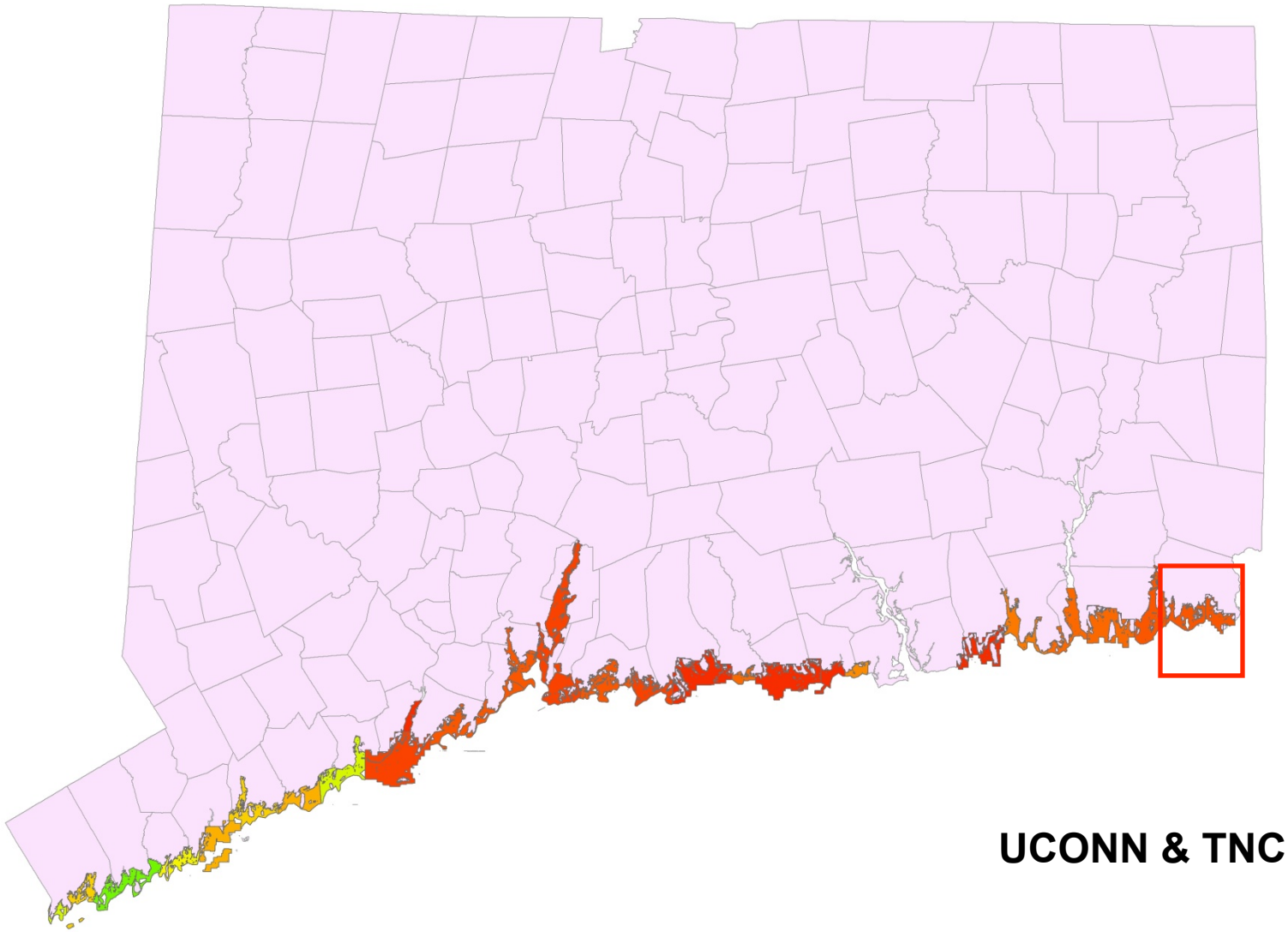

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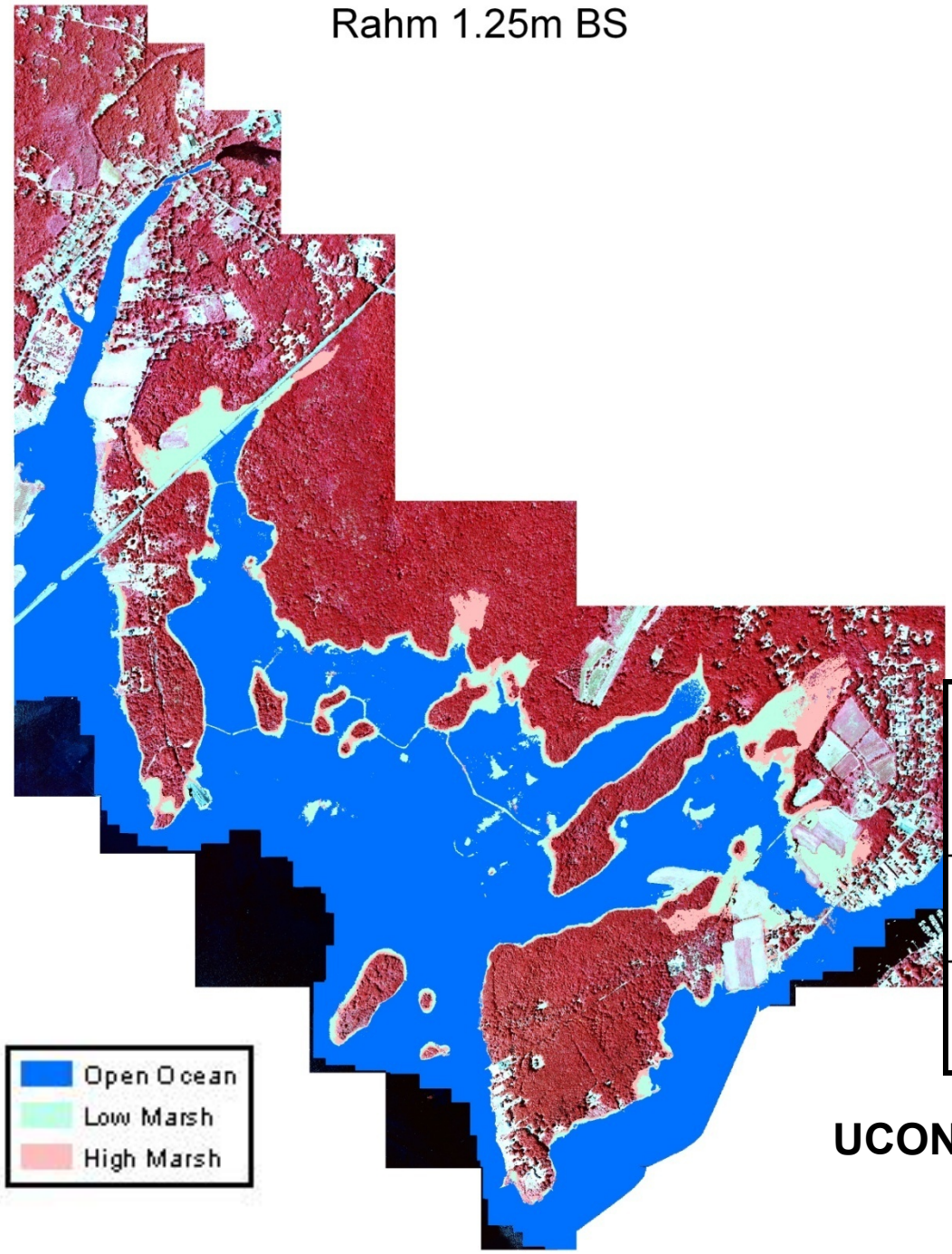
Site #1 Barn Island
Rahm 1.25m BS



Low Marsh (Hectares)	High Marsh (Hectares)
46.0	24.9
-40.3%	-68.3%

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Site #1 Barn Island
Rahm 1.25m RE

Concept of ADVANCEMENT ZONES

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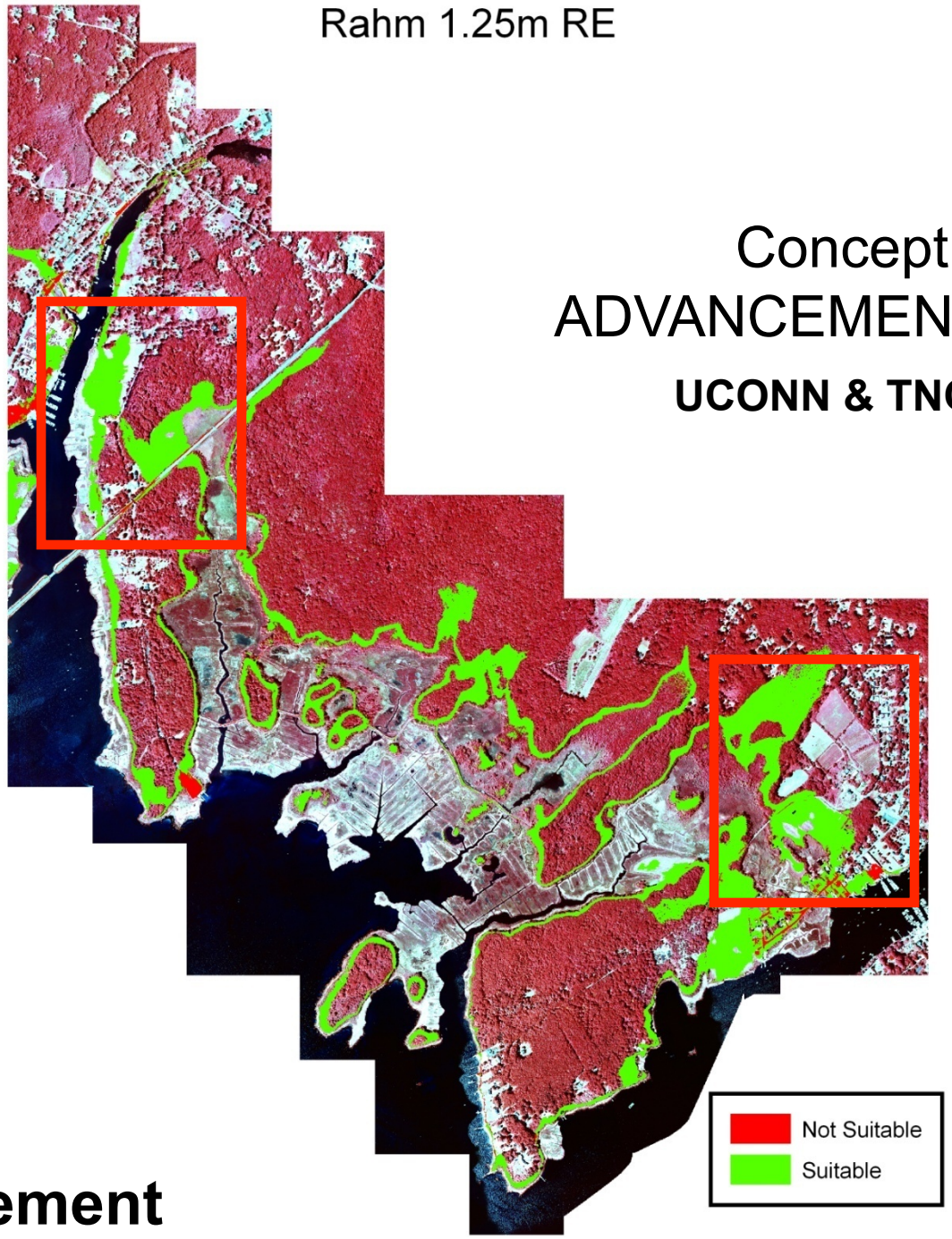
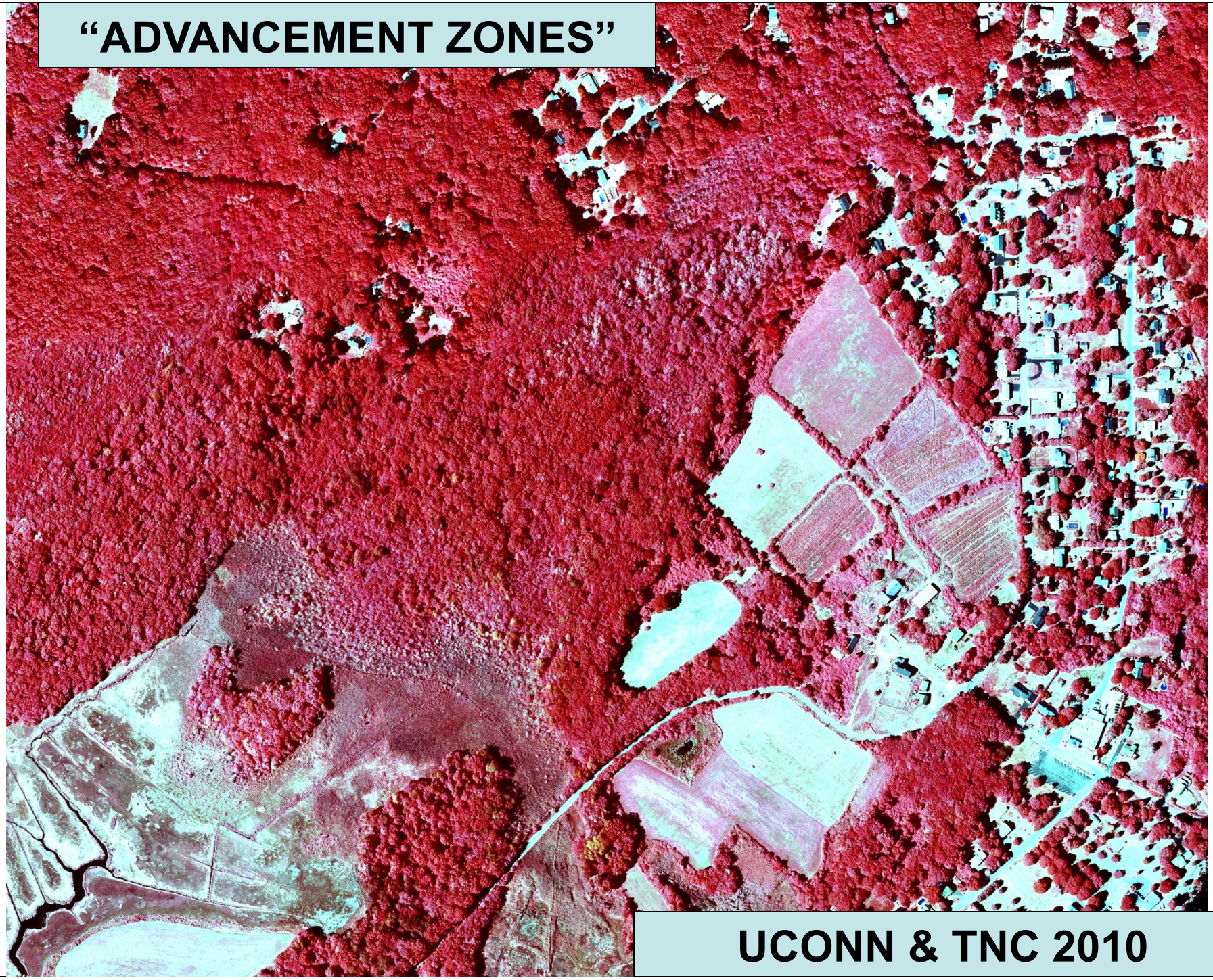


Step 3: Implement

“ADVANCEMENT ZONES”



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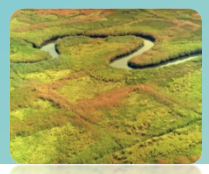
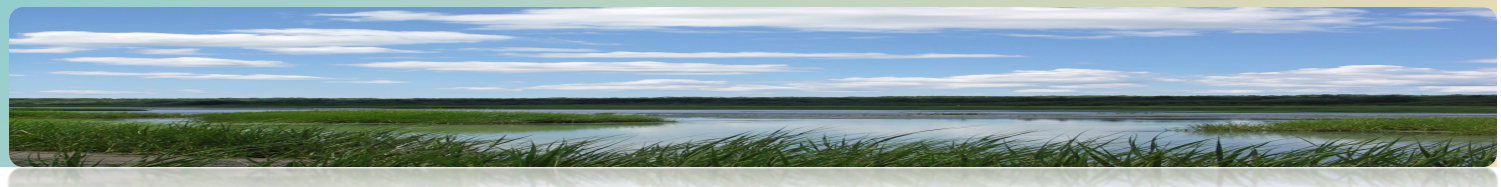

“A CHANGE IS COMING”


Thank You!
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